

## **In the Claims**

1-84 (cancelled)

85. (new)      A method of controlling flow of frame based data comprising the steps of:

receiving frame based data at a local frame based data channel interface at a first rate of reception, said data being for transmission over a synchronous digital network;

storing said data in a buffer;

monitoring an amount of said data stored in said buffer with respect to a data amount threshold level for said buffer;

determining that said amount is greater than said threshold level;

in response to said step of determining, generating a signal for adapting said first rate to a second rate of reception lower than said first rate.

86. (new)      A method according to claim 85, wherein said synchronous digital network comprises a synchronous digital hierarchy (SDH) network.

87.(new)      A method according to claim 85, wherein said synchronous digital network comprises a SONET network.

88. (new)      A method according to claim 85, wherein said data is received from an Ethernet network.

89. (new)      A method according to claim 85, wherein said data is Ethernet data.

90.(new)      A method according to claim 85, wherein said signal comprises a pause frame.

91. (new) A method according to claim 90, wherein said data is received from an Ethernet network and said pause frame is an Ethernet pause frame.

92. (new) A method according to claim 91, wherein said pause frame specifies a time interval for inhibiting further transmissions from said Ethernet network.

93. (new) A method according to claim 85, wherein said buffer comprises data storage locations for storing at least one data frame.

94. (new) A method according to claim 85, wherein said buffer has a size equal to a number of maximum length Ethernet frames, said number being selectable from the set comprising 4 and 6.

95. (new) A method according to claim 85, wherein said buffer comprises, above said threshold level, an amount of data storage capacity equal to the size of two maximum length Ethernet frames.

96. (new) A method according to claim 85, wherein said buffer is configured as a first in first out (FIFO) queue.

97. (new) A method according to claim 85, wherein said buffer is configured as a circular buffer.

98. (new) A method according to claim 85, comprising sending said generated signal over said interface.

99.(new) A method according to claim 98, wherein said step of sending is performed substantially immediately after said step of determining.

100. (new) A method according to claim 98, wherein said step of sending is performed upon completing transmission of a data frame currently being transmitted at said interface.

101.(new) A method of controlling flow of frame based data comprising the steps of:

receiving frame based data transmitted over a synchronous digital network at a first rate of reception, said data being for transmission over a local frame based data channel interface;

storing said data in a buffer;

monitoring an amount of said data stored in said buffer with respect to a data amount threshold level for said buffer;

determining that said amount is greater than said threshold level;

in response to said step of determining, generating a signal for adapting said first rate to a second rate of reception lower than said first rate.

102. (new) A method according to claim 101, wherein said synchronous digital network comprises a synchronous digital hierarchy (SDH) network.

103. (new) A method according to claim 101, wherein said synchronous digital network comprises a SONET network.

104.(new) A method according to claim 101, wherein said data is for transmission to an Ethernet network.

105.(new) A method according to claim 101, wherein said data is Ethernet data.

106.(new) A method according to claim 101, wherein said signal comprises a pause frame.

107.(new) A method according to claim 106, wherein said data is received from an Ethernet network and said pause frame is an Ethernet pause frame.

108.(new) A method according to claim 107, wherein said pause frame specifies a time interval for inhibiting further transmissions from said Ethernet network.

109.(new) A method according to claim 101, wherein said buffer comprises data storage locations for storing at least one data frame.

110.(new) A method according to claim 101, wherein said buffer has a size equal to a number of maximum length Ethernet frames, said number being selectable from the set comprising 4 and 6.

111.(new) A method according to claim 101, wherein said buffer comprises, above said threshold level, an amount of data storage capacity equal to the size of two maximum length Ethernet frames.

112.(new) A method according to claim 101, wherein said buffer is configured as a first in first out (FIFO) queue.

113.(new) A method according to claim 101, wherein said buffer is configured as a circular buffer.

114.(new) A method according to claim 101, comprising sending said generated signal over said synchronous digital network.

115.(new) A method according to claim 114, wherein said step of sending is performed substantially immediately after said step of determining.

116.(new) A method according to claim 114, wherein said step of sending is performed upon completing transmission of a data frame currently being transmitted over said synchronous digital network.

117.(new) Apparatus for controlling flow of frame based data comprising:

- an input for receiving frame based data from a local frame based data channel interface at a first rate of reception, said data being for transmission over a synchronous digital network;

- a buffer for storing said data;

- a monitor for monitoring an amount of said data stored in said buffer with respect to a data amount threshold level for said buffer;

- a determiner for determining that said amount is greater than said threshold level;

- a signal generator operable to generate, in response to said determiner, a signal for adapting said first rate to a second rate of reception lower than said first rate.

118.(new) Apparatus according to claim 117, wherein said synchronous digital network comprises a synchronous digital hierarchy (SDH) network.

119.(new) Apparatus according to claim 117, wherein said synchronous digital network comprises a SONET network.

120.(new) Apparatus according to claim 117, wherein said data is received from an Ethernet network.

121.(new) Apparatus according to claim 117, wherein said data is Ethernet data.

122.(new) Apparatus according to claim 117, wherein said signal comprises a pause frame.

123.(new) Apparatus according to claim 122, wherein said data is received from an Ethernet network and said pause frame is an Ethernet pause frame.

124.(new) Apparatus according to claim 123, wherein said pause frame specifies a time interval for inhibiting further transmissions from said Ethernet network.

125.(new) Apparatus according to claim 117, wherein said buffer comprises data storage locations for storing at least one data frame.

126.(new) Apparatus according to claim 117, wherein said buffer has a size equal to a number of maximum length Ethernet frames, said number being selectable from the set comprising 4 and 6.

127.(new) Apparatus according to claim 117, wherein said buffer comprises, above said threshold level, an amount of data storage capacity equal to the size of two maximum length Ethernet frames.

128.(new) Apparatus according to claim 117, wherein said buffer is configured as a first in first out (FIFO) queue.

129.(new) Apparatus according to claim 117, wherein said buffer is configured as a circular buffer.

130.(new) Apparatus according to claim 117, comprising an output for sending said generated signal over said interface.

131.(new) Apparatus for controlling flow of frame based data:

an input for receiving frame based data transmitted over a synchronous digital network at a first rate of reception, said data being for transmission over a local frame based data channel interface;

a buffer for storing said data;

a monitor for monitoring an amount of said data stored in said buffer with respect to a data amount threshold level for said buffer;

a determiner for determining that said amount is greater than said threshold level;

a generator for generating, in response to said determiner, a signal for adapting said first rate to a second rate of reception lower than said first rate.

132.(new) Apparatus according to claim 131, wherein said synchronous digital network comprises a synchronous digital hierarchy (SDH) network.

133.(new) Apparatus according to claim 131, wherein said synchronous digital network comprises a SONET network.

134.(new) Apparatus according to claim 131, wherein said data is for transmission to an Ethernet network.

135.(new) Apparatus according to claim 131, wherein said data is Ethernet data.

136.(new) Apparatus according to claim 131, wherein said signal comprises a pause frame.

137.(new) Apparatus according to claim 136, wherein said data is received from an Ethernet network and said pause frame is an Ethernet pause frame.

138.(new) Apparatus according to claim 137, wherein said pause frame specifies a time interval for inhibiting further transmissions from said Ethernet network.

139.(new) Apparatus according to claim 131, wherein said buffer comprises data storage locations for storing at least one data frame.

140.(new) Apparatus according to claim 131, wherein said buffer has a size equal to a number of maximum length Ethernet frames, said number being selectable from the set comprising 4 and 6.

141.(new) Apparatus according to claim 131, wherein said buffer comprises, above said threshold level, an amount of data storage capacity equal to the size of two maximum length Ethernet frames.

142.(new) Apparatus according to claim 131, wherein said buffer is configured as a first in first out (FIFO) queue.

143.(new) Apparatus according to claim 131, wherein said buffer is configured as a circular buffer.



144.(new) Apparatus according to claim 131, comprising an output for sending said generated signal over said synchronous digital network.